WASHINGTON AGRICULTURAL CHEMICAL USAGE ASPARAGUS August 2003

WASHINGTON AGRICULTURAL STATISTICS SERVICE

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ASPARAGUS

Results of the 2000 and 2002 Vegetable Chemical Use Surveys are presented in the following tables. The 2002 survey was designed to collect data on chemical applications made after the end of the 2001 harvest through completion of the 2002 harvest from a sampling of vegetable crops in Washington. Targeted crops for Washington included asparagus, processing carrots, processing sweet corn, dry onions, and processing green peas. The probability nature of the survey allowed for estimates that are representative of chemical use on all targeted vegetables in the state.

Survey results include estimates of total area treated, number of applications, rates per application, rates per crop year, and total pounds of chemicals applied. Data were summarized for the active ingredients of pesticides and other chemicals applied. Pesticide data were collected for specific formulations of active ingredients (trade name products) and then converted to active ingredient. Therefore, the estimates associated with a particular active ingredient may represent applications of several trade name products. Pesticide application rates also reflect partial coverage applications as a result of band, spot, and alternate row spraying techniques. Fertilizer information, which was not collected during the 2000 Vegetable Chemical Use Survey, was collected in the 2002 Vegetable Chemical Use Survey.

Three states were surveyed for **asparagus** in 2002: California, Michigan, and Washington. Surveyed acreage totaled 70,500 acres and Washington accounted for 26 percent of total surveyed acreage. All estimates are for asparagus of bearing age only.

Herbicides were applied to 68 percent of the planted acreage in the three surveyed states, with the greatest coverage in Michigan at 98 percent. Diuron was applied to 48 percent of the crop, and the next most used herbicide, metribuzin, was applied to 33 percent. Insecticides were also applied to 76 percent of the asparagus acres. The lowest coverage was in California, at 68 percent of the planted acres being treated. Michigan applied insecticides to the largest percentage of the crop, 91 percent. Overall, fungicides were used on 32 percent of the acreage, with the greatest coverage in Michigan at 80 percent of the crop. California had the largest acreage planted to asparagus and had a relatively low fungicide use.

Nitrogen fertilizer was applied to 72 percent of the acreage in the three surveyed states. Phosphate fertilizer was applied to 30 percent of the acreage, and potash was applied to 33 percent of the acreage in the three states.

Asparagus: Fertilizer Applications, Total Acreage & Percentage Receiving Applications, Major States & Total, 2000 & 2002

State	Planted Acreage		Area Receiving 1/					
			Nitrogen		Phosphate		Potash	
	2000	2002	2000	2002	2000	2002	2000	2002
	Acres		Percent					
California	40,900	36,500	-	60	-	26	-	12
Michigan	17,000	16,000	-	98	-	35	-	83
New Jersey 2/	1,000	-	-	-	-	-	-	-
Washington	23,000	18,000	-	71	-	33	-	31
TOTAL	**81,900**	**70,500**	**-**	**72**	**-**	**30**	**-**	**33**

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient. 2/ New Jersey was not included in the 2002 survey.
- Fertilizer applications were not collected in the 2000 Vegetable Chemical Use Survey.

Asparagus: Pesticide Applications, Total Acreage & Percentage Receiving Applications, Major States & Total, 2000 & 2002

State	Planted Acreage		Area Receiving 1/							
			Herbicides		Insecticides		Fungicides		Other Chemicals	
	2000	2002	2000	2002	2000	2002	2000	2002	2000	2002
	Acres		Percent							
California	40,900	36,500	73	42	87	68	34	9	**	**
Michigan	17,000	16,000	96	98	97	91	79	80	**	**
New Jersey 2/	1,000	-	88	-	73	-	**	-	**	**
Washington	23,000	18,000	94	94	70	78	**	37	**	**
TOTAL	**81,900**	**70,500**	**84**	**68**	**84**	**76**	**42**	**32**	**	**

*1/ Refers to acres receiving one or more applications of a specific pesticide class. 2/ New Jersey was not included in the 2002 survey. ** Insufficient reports to publish percent of area receiving.*

Asparagus: Agricultural Chemical Applications, Washington, 2000 & 2002 1/

Active Ingredient 2/	Area Applied		Applications		Rate Per Application		Rate Per Crop Year		Total Applied	
	2000	2002	2000	2002	2000	2002	2000	2002	2000	2002
	Percent		Number		Pounds Per Acre				1,000 Pounds	
Herbicides										
2, 4-D	6	-	1.0	-	0.69	-	0.74	-	1.0	-
Dicamba	5	-	1.2	-	0.18	-	0.22	-	0.2	-
Diuron	59	63	1.1	1.2	1.18	1.31	1.40	1.66	19.0	18.9
Glyphosate	28	17	1.0	1.0	0.82	0.65	0.87	0.68	5.6	2.0
Linuron	-	8	-	1.3	-	0.77	-	1.07	-	1.6
Metribuzin	53	49	1.2	1.5	0.87	0.77	1.06	1.15	13.0	10.1
Parquat	17	22	1.0	1.2	0.60	0.51	0.60	0.61	2.3	2.4
Trifluralin	47	56	1.0	1.0	1.15	1.07	1.18	1.10	12.6	11.1
Insecticides										
Carbaryl	-	32	-	1.0	-	1.32	-	1.43	-	8.3
Dimethoate	6	-	2.2	-	0.52	-	1.15	-	1.6	-
Disulfoton	50	65	1.5	1.3	0.94	1.01	1.44	1.34	16.7	15.5
Malathion	15	-	1.0	-	1.14	-	1.21	-	4.1	-
Fungicides										
Mancozeb	-	37	-	1.4	-	1.50	-	2.19	-	14.6

1/ Planted acres in 2000 for Washington were 23,000, and planted acres in 2002 were 18,000. 2/ Insufficient reports to publish data for the following agricultural chemicals: 2000: Herbicides: Alachlor, Clopyralid, Linuron, MCPA, Norflurazon, Quizalofop-ethyl, Simazine, Terbacil. Insecticides: Carbaryl, Chlorpyrifos, Diazinon, Endosulfan. Fungicides: Mancozeb. 2002: Herbicides: 2,4-D, 2,4-D, Dimeth. salt, Bromacil, Clopyralid, Dicamba, Dicamba, Sodium Salt, Halosulfuron, Norflurazon, Picloram, Simazine, Sulfosate. Insecticides: Chlorpyrifos, Diazinon, Dimethoate, Malathion, Permethrin, Phosphamidon. Other Chemicals: Monocarbamide dihyd. 3/ Refers to acres receiving one or more applications of a specific agricultural chemical. Note: Data may not multiply across due to rounding.

Asparagus: Agricultural Chemical Applications, Major States, 2000 & 2002 1/

Active Ingredient 2/	Area Applied		Applications		Rate Per Application		Rate Per Crop Year		Total Applied	
	2000	2002	2000	2002	2000	2002	2000	2002	2000	2002
	Percent		Number		Pounds Per Acre				1,000 Pounds	
Herbicides										
2, 4-D	9	-	1.1	-	1.06	-	1.24	-	9.3	-
Clopyralid	1	-	1.1	-	0.13	-	0.16	-	0.1	-
Dicamba	3	4	1.1	1.2	0.24	0.31	0.27	0.38	0.6	1.0
Diuron	50	48	1.3	1.5	1.38	1.36	1.91	2.09	77.5	70.7
Fluazifop-P-butyl	1	-	1.1	-	0.14	-	0.15	-	0.2	-
Glyphosate	38	32	1.3	1.3	0.83	0.74	1.15	1.01	35.4	22.7
Halosulfuron	-	*	-	1.0	-	0.04	-	0.04	-	4/
Linuron	11	8	1.2	1.3	1.04	0.77	1.31	1.01	12.0	5.7
Metribuzin	37	33	1.3	1.5	0.68	0.58	0.94	0.89	28.8	20.8
Napropamide	*	-	1.1	-	1.35	-	1.52	-	0.2	-
Norflurazon	5	3	1.4	1.0	1.23	0.85	1.83	0.88	7.7	1.8
Paraquat	9	12	1.1	1.1	0.59	0.55	0.66	0.64	5.1	5.6
Sethoxydim	2	-	1.3	-	0.29	-	0.40	-	0.7	-
Simazine	2	1	1.1	1.0	1.14	1.76	1.28	1.76	1.6	1.3
Terbacil	2	*	1.2	1.2	0.54	0.43	0.66	0.52	1.1	0.3
Trifluralin	27	18	1.1	1.0	1.32	1.13	1.49	1.19	32.4	14.9
Insecticides										
Carbaryl	32	28	2.9	2.6	0.76	0.71	2.23	1.88	58.3	37.2
Chlorpyrifos	23	21	1.2	1.2	0.93	0.93	1.17	1.15	22.1	17.1
Dimethoate	2	2	2.2	1.0	0.52	0.50	1.15	0.54	1.6	0.7
Disulfoton	51	46	1.4	1.3	0.96	0.99	1.43	1.32	59.4	43.3
Malathion	9	3	1.0	1.0	1.16	0.99	1.26	1.04	9.1	2.2
Methomyl	4	-	1.5	-	0.76	-	1.16	-	3.4	-
Permethrin	12	19	3.0	2.0	0.09	0.09	0.27	0.18	2.5	2.4
Fungicides										
Chlorothalonil	13	15	3.6	2.9	1.54	1.41	5.63	4.08	61.5	43.2
Mancozeb	18	-	2.4	-	1.40	-	3.40	-	49.6	-
Mefenoxam	3	-	1.2	-	0.47	-	0.60	-	1.7	-
Myclobutanil	11	-	1.3	-	0.10	-	0.14	-	1.2	-
Sulfur	5	2	2.4	2.1	11.44	6.88	27.95	14.54	113.3	19.3
Tebuconazole	-	4	-	1.8	-	0.09	-	0.17	-	0.4

** Applied on less than one percent of acres. 1/ Planted acres in 2000 and 2002 were 81,900 acres and 70,500 acres, respectively. States included in 2000 were CA, MI, NJ, & WA, and in 2002 the states were CA, MI, & WA. 2/ Insufficient reports to publish data for the following agricultural chemicals: 2000: Herbicides: Alachlor, Glyphosate, is. Salt, MCPA, Quizalofop-ethyl, Sulfosate. Insecticides: Bt (Bacillus thur.), Diazinon, Endosulfan, Esfenvalerate, Fonofos, Neem oil, Petroleum distillate. Fungicides: Copper ammonium, Copper hydroxide, Maneb, Metalaxyl, Metiram. Other Chemicals: Cytokinins, Indolebutyric acid, Potassium gibber. 2002: Herbicides: 2, 4-D, 2, 4-D, Dimeth. salt, Bromacil, Clopyralid, Dicamba, Sodium Salt, Ethalfluralin, Fluazifop-P-butyl, Napropamide, Picloram, Quizalofop-ethyl, S-Metolachlor, Sethoxydim, Sulfosate. Insecticides: Bt (Bacillus thur.), Diazinon, Esfenvalerate, Methomyl, Phosphamidon, Pyrethrins, Rotenone. Fungicides: Mancozeb, Mefenoxam, Metiram, Myclobutanil. Other Chemicals: Dichloropropene, Monocarbamide dihyd.*

3/ Refers to acres receiving one or more applications of a specific agricultural chemical. 4/ Total applied is less than 50 lbs.

Note: Data may not multiply across due to rounding.